

What Is Claimed Is:

- 1 1. A system 30 for continuously coating cores of gum
2 material comprising:
3 at least one elongated rotating drum member 34 having a first
4 end 33 and a second end 39, said drum member being tilted at an angle relative
5 to horizontal;
6 the cores of gum material 20 being introduced into said drum
7 member at said first end and being removed from said drum member at said
8 second end,
9 a plurality of nozzles 40 positioned in said drum member for
10 applying coating materials on the cores of gum material in said drum as said
11 cores of gum material proceed through said drum member from said first end to
12 said second end; and
13 a supply of heated air 52, said air being introduced into said
14 drum in order to dry the coating materials as they are applied to the cores of
15 gum material;
16 wherein said cores of material are processed in said drum
17 member on a first in-first out basis.
- 1 2. The system as recited in claim 1 wherein at least two
2 drum members 34 and 34' are provided in series, and wherein said system
3 further comprises a conveyer mechanism 54 for transporting said cores of gum
4 material from a first drum member to a second drum member.
- 1 3. The system as recited in claim 1 further comprising a
2 batch-type mixer mechanism 12 for providing an initial coating of material on
3 said cores of gum material before they are introduced into said drum member.
- 1 4. The system as recited in claim 1 wherein said coating
2 materials 50 are in a liquid form and are applied to said cores of gum material
3 20 by spraying.

1 5. The system as recited in claim 1 wherein said coating
2 materials 50 are in a dry powder form.

1 6. A method for continuously coating cores of gum material
2 comprising:

3 (a) continuously introducing cores of gum material 20 into
4 an inlet end 33 of a rotating drum member 34;

5 (b) transporting the cores of gum material from said inlet end
6 33 to an outlet end 39 of said drum member;

7 (c) applying a coating material 50 on said cores of gum
8 material inside said drum member;

9 (d) drying said coating cores of gum material by circulation
10 of heated air 52 inside said drum member; and

11 (e) inclining said drum member relative to the horizontal in
12 order to insure that the first cores of gum material introduced into said inlet end
13 of said rotating drum member are substantially the first cores of gum material to
14 be exhausted from said outlet end of said drum member.

1 7. The method as recited in claim 6 further comprising the
2 step of applying at least one initial coating of material on the cores of gum
3 material prior to step (a).

1 8. The method as recited in claim 6 wherein at least two
2 drum members 34 and 34' are provided and said method further comprises the
3 step of transporting the cores of gum material from a first drum member to a
4 second drum member.

1 9. The method as recited in claim 8 further comprising the
2 step of changing the formula of said coating material from the coating material
3 used to form said at least one initial coating of material to the coating material
4 used to introduce into said drum member.

1 10. The method as recited in claim 8 further comprising the
2 step of providing a first formula of coating material used to introduce into said
3 first drum member and a second and different formula of coating material used
4 to spray into said second drum member.

1 11. A method as recited in claim 8 further comprising the
2 step of providing drying air into said first drum member at a lower temperature
3 than the drying air introduced into said second drum member.

1 12. A method as recited in claim 6 wherein said coating
2 materials are applied by spraying in a liquid form.

1 13. A method for continuously coating individual pieces of
2 gum material comprising:
3 introducing scored sheets of gum material into a mixer;
4 rotating said mixer to break up the sheets of gum material into
5 individual pieces of gum material;
6 transferring the individual pieces of gum material into a first
7 rotating drum member having an inlet end and an outlet end;
8 transporting the individual pieces of gum material from said inlet
9 end to said outlet end;
10 applying at least a plurality of first coatings of a first material on
11 said individual pieces of gum material in said first rotating drum member;
12 cooling the individual pieces of gum material in said first
13 rotating drum member with air at a first temperature to prevent the individual
14 pieces from sticking together;
15 inclining the first rotating drum member with a sufficient extent
16 to insure that the first individual pieces of gum material introduced into said
17 inlet end are substantially the first pieces of gum material to be exhausted from
18 the outlet end;
19 transferring the individual pieces of gum material to a second
20 rotating drum member having an inlet end and an outlet end;

21 transporting said individual pieces of gum material from the inlet
22 end to the outlet end of said second rotating drum member;

23 applying at least a plurality of second coatings of a second
24 material on said individual pieces of gum material in said second rotating drum
25 member;

26 drying said individual pieces of gum material in said second
27 rotating drum member by circulation of air therein, said air being heated to a
28 second temperature higher than the temperature of air in the first rotating drum
29 member;

30 inclining said second rotating drum member a sufficient extent to
31 insure that the first individual pieces of gum material introduced in the inlet end
32 of said second rotating drum member are substantially the first piece of gum
33 material to be exhausted from the outlet end of said second rotating drum
34 member;

35 wherein a smooth, thick shell of coating materials is formed on
36 each of said pieces of gum material comparable to coatings formed by batch-
37 type coating processes and in a faster manner.

1 14. A method for continuously coating individual pieces of
2 gum material to provide a smooth, thick shell of coating material thereon,
3 comprising:

4 transferring the individual pieces of gum material into a first
5 rotating drum member having an inlet end and an outlet end;

6 transporting the individual pieces of gum material from said inlet
7 end to said outlet end;

8 applying at least a first coating of a first material on said
9 individual pieces of gum material in said first rotating drum member;

10 cooling the individual pieces of gum material in said first
11 rotating drum member with air at a first temperature to prevent the individual
12 pieces from sticking together;

13 inclining the first rotating drum member with a sufficient extent
14 to insure that the first individual pieces of gum material introduced into said

15 inlet end are substantially the first pieces of gum material to be exhausted from
16 the outlet end;
17 transferring the individual pieces of gum material to a second
18 rotating drum member having an inlet end and an outlet end;
19 transporting said individual pieces of gum material from the inlet
20 end to the outlet end of said second rotating drum member;
21 applying at least a second coating of a second material on said
22 individual pieces of gum material in said second rotating drum member;
23 drying said individual pieces of gum material in said second
24 rotating drum member by circulation of air therein, said air being heated to a
25 second temperature higher than the temperature of air in the first rotating drum
26 member;
27 inclining said second rotating drum member a sufficient extent to
28 insure that the first individual pieces of gum material introduced in the inlet end
29 of said second rotating drum member are substantially the first piece of gum
30 material to be exhausted from the outlet end of said second rotating drum
31 member;
32 wherein a smooth, thick shell of coating materials is formed on
33 each of said pieces of gum material comparable to coatings formed by batch-
34 type coating processes in a faster manner.

1 15. A method for continuously coating cores of gum material
2 to provide a smooth, thick shell of coating material thereon comprising:
3 (a) continuously introducing cores of gum material into an
4 inlet end of a rotating drum member;
5 (b) transporting the cores of gum material from said inlet end
6 to an outlet end of said drum member;
7 (c) applying a coating material on said cores of gum material
8 inside said drum member;
9 (d) drying said coating cores of gum material by circulation
10 of heated air inside said drum member; and

11 (e) inclining said drum member relative to the horizontal in
12 order to insure that the first cores of gum material introduced into said inlet end
13 of said rotating drum member are substantially the first cores of gum material to
14 be exhausted from said outlet end of said drum member;
15 wherein a smooth, thick shell of coating materials is formed on
16 each of said pieces of gum material comparable to coatings formed by batch-
17 type coating processes, and in a faster manner.

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